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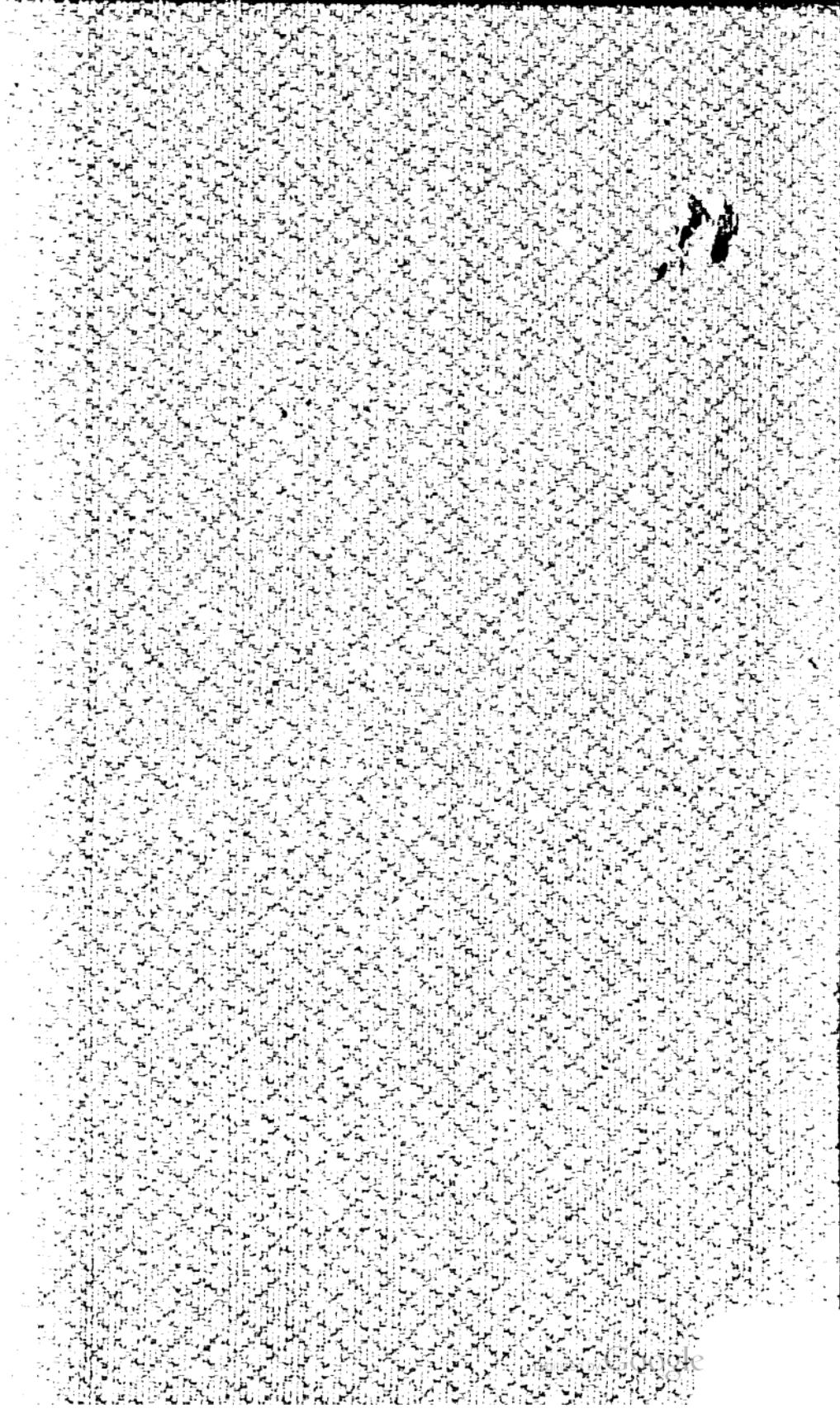
THE TEETH

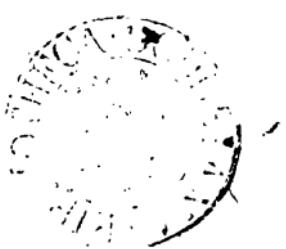
EDW^R. MILES.

1206.

1206.









THE declining state of the Muscles, the Countenance,
and general health, from the loss of TEETH, and



their comparatively retrieved condition, after a few month's
use of a Set of the Authors best ARTIFICIAL TEETH. See Pages 10, 19, 57, &c.

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THE
HEALTH, COMFORT,
AND
LONGEVITY OF THE
HUMAN BODY,

A FEW VIEWS AND

THE
TEETH.

THEIR PRESERVATION AND LOSS,

WITH SOME REMARKS ON

PROBLEMS OF MEDICAL

EDWARD,

LL.D. F.R.S.

"THE TEETH PRESERVED,

"SOUNDNESS OF CONSTITUTION,

THE HEALTHY CONDITION OF

THE HUMAN BODY,

AND THE RELATIONSHIP

OF THE ONE

C. GILPIN, 5, B.C.

1790.

1266.

HEALTH, COMFORT,
AND
LONGEVITY PROMOTED,
OR
A FEW MINUTES REGARD
TO
THE TEETH,

THEIR PRESERVATION AND RESTORATION BY ARTIFICIAL ONES,
WITH SOME REMARKS ON CORRECT PRONUNCIATION,
PRECAUTIONS TO MOTHERS ON DENTITION, &c.

By EDWARD MILES,
DENTIST.



“THE TEETH DESERVE OUR UTMOST ATTENTION.”—JOHN HUNTER.
“SOUNDNESS OF CONSTITUTION AND DURATION OF LIFE MUCH DEPEND ON
THE HEALTHY CONDITION OF THE MOUTH.”—L. S. PARMLY.

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1846.

1206.

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A FEW MINUTES, &c.

INTRODUCTORY.

DURING a professional practice of about eighteen years, the writer's attention has often been forcibly drawn to the insidious nature of disease to which the teeth are liable. Unlike other parts of the frame it may not only commence, but even be rapidly advancing without producing any premonitory symptoms, and so unacquainted are most persons with its nature and progress, that unless uneasiness or suffering have been experienced no apprehension or distrust is felt.

Then the *period* at which decay commences; he frequently meets with young children, of ten, twelve, and upwards, with decayed permanent teeth;—this is the very reverse of the prevailing popular error, which supposes them scarcely obnoxious to the evil before a *later* period of life.

Hence the importance of a short *condensed* work on the teeth, accessible to all, which shall premonish parents and others: and as it is well known that a delicacy is felt on this subject which prevents advice being given, to afford an opportunity of performing this little act of kindness:—by enclosing or speaking of this little work, either avowedly or otherwise, *individual* regard may be secured and a permanent good conferred.

It is in the barrier which is presented by faulty teeth, to the proper performance of the thousand different avocations of

life, in which their effect is felt the most irksome and afflicting:—to plead in the senate or bar, though it may be for the dearest rights and interests,—(the properties, liberties, or lives of others,)—to maintain a lengthened discourse,—to negotiate the momentary affairs of exchange,—to attend the duties of the office, the market, or shop,—to do any one of these and ten thousand other things,—to think,—to act,—to work, and to do them *correctly*, with diseased and irritating teeth, require herculean powers not possessed by man.

Hence the title “Health, Comfort and Longevity, promoted,” for if writers on longevity are correct in averring, that “all which conduces to establish health of body, to temper and humanize the soul, and calm the rougher passions, to favour habitual calmness and serenity of mind,” eminently tends to promote long

life, then it is obvious, that the prevention and mitigation of pain and discomfort by the preservation and restoration of the teeth, must have that tendency: —and finally, the writer believes he cannot do better than to conclude with the words of an eminent author and lecturer, Dr. William Hufeland, “may I be favoured to promote (by this humble effort) two objects,—not only to render the life of man more healthful and longer, but also by exciting his exertions for that purpose, to make him better and more virtuous;—I can at any rate assert that man will in vain seek for the former without the latter.”

15, *Liverpool Street, Bishopsgate, London,*
1st Month, 1846.

THE TEETH INDISPENSABLE, &c.

THE TEETH

claim a much more important rank in the human structure, and our health and comfort, and, consequently, the duration of our lives are much more dependent on them than is generally supposed even by thinking persons. And yet the consideration of their solid construction alone, (for they are of harder texture than any other part of the frame, coated with a fibrous and rocky substance, and intended evidently to endure till a late period of life) might serve to convince us, that as no intrinsic superiority is ever undesignedly produced

The essential importance of the Teeth evinced by their structure, their durable nature, the excellencies they possess, and

by the infinite Author of our being, their use and offices must be indispensable to promote and sustain a healthful existence ;—else why all this employment of material ? Why such beautiful symmetry and precision also in their form and adjustment ?*

the miserable consequences which ensue from the loss of them. Whence the semi-vitality of a frame prematurely bereft of them and left unreplaced by artificial ones ? You may find a response in the hollow cheek,—the falling nose,—the projecting chin,—the want of vigour in the wonted expression of the eye,—the dissonance and absence of symphony in every attempted exertion of the voice.

Food neither enjoyed nor prepared, Note a little farther,—watch the masticatory process,—is food enjoyed ? Is it divided and sub-divided and beaten into a consistent pulp by the combination of a due and healthful secretion from the salivary glands ? The act

* “ There is no part of an animal body where contrivance is more directly demonstrated than in the teeth, or in which resemblance is more obvious between the mechanism of engines and this provision in the animal economy.”—*Paley's Natural Theology*. Charles Bell and Henry Brougham's edition, vol. ii, p. 287.

of deglutition,—is this quite easy?—and is it performed without a little unnatural exertion and distortion of the exterior muscles?

Continue your research—what is the effect nor duly assimilated. on the stomach? Is the food grateful and comfortable to that organ? Is it introduced in a prepared and soluble state? (for unless it is, according to an eminent physiologist,* it is impossible that a proper proportion of albumen can be extracted and a nutritive chyle be formed.)

Then what is the effect on the other portions Indigestion follows. of the abdominal viscera? Do they perform their digestive functions without medicinal compulsion? The whole exterior:—is it portly and improving, or is it languishing and retrograding? The latter process must, of necessity, be making head for this obvious reason;—there are two functions constantly going on, namely, nutrition and absorption, and the bulk of the body and of its parts, varies, according to the predominance of the one or the other of these actions, *thriving and enlarging when the former prevails, and wasting when the latter*

Health and vigour decline, because the process of absorption

* Muller.

exceeds that *is in excess*. The chyle is the nutritive principle of the food which we receive;—from the chyle the blood is formed; from which again are derived various fluids for the reparation of the body and the performance of the nutritive process already explained, (for the whole substance of the body undergoes renovation in course of time* and is constantly losing its constituent parts). If, then, the nutritive principle be deficient, which physiologists assure us is the case when food is introduced into the stomach in a crude and *undivided state*, it is abundantly clear, that from the loss of teeth may result the wasting and declension of the whole body.

We might carry our animadversions still further,—we might speak of the mind,—the spirits and pursuits, the regression of which, a declining frame cannot fail to effect.

The European authors who have written upon the subjects of health and longevity are

Concurrent
Opinions of
Authors on
longevity and
health.

* “Even the bones undergo a gradual change during the whole of life, each particle is removed in succession and is replaced by other.”—*Encyclopaedia Britanica*.

said to be nearly two thousand, including many of our own countrymen, and they men of superior medical celebrity. I have examined a number of their works, and find, that they so invariably coincide in one conclusion, namely, *that a sound digestion is the basis of health and long life*; that individual quotations would be tautological and tedious; a few therefore must suffice.

Dr. Hufeland* is very perspicuous on this point, and after an elaborate inquiry into the nature of the vital power and the duration of life in general, in the vegetable and animal kingdoms, and then particularly in *human life*, in laying down "the special and individual grounds," the "grand properties" (as he considers,) of a frame which must be possessed by every man before he has any *earthly prospect* of a long life, remarks, "The properties which may be called the foundations of a long life in man are the following. First, above all things the *stomach* and the whole *system* of digestion must be sound and well formed:—it is incredible of what importance

Dr. Hufeland's opinion, as to sound digestion being the basis of long life and health, and

* "The Art of Prolonging Life."

good teeth as an essential auxiliary thereto. this most powerful of all the rulers in the animal kingdom is in this respect, and we may justly affirm, that without a good stomach it is impossible to attain to a great age." He then adds, (p. 219) "for good digestion, *good teeth* are extremely necessary, and one therefore may consider *them among the essential properties requisite for long life*, and in two points of view, first, good and strong teeth are always a sign of a sound strong constitution and good juices. Those who lose their teeth early, have in a certain measure taken possession of the other world with a part of their bodies: and the teeth are a great help to digestion, and, consequently, to restoration."

Dr. Willich's opinion as to deficient Teeth causing an enfeebled Stomach.

Dr. A. F. Willich, (*Lectures on Diet and Regimen*) is equally explicit, p. 134. "If the teeth be unequal to the purposes of mastication, the digestive powers will be gradually impaired and the soundest stomach vitiated. To neglect the teeth, therefore, is to neglect the stomach, and if the stomach be weakened the *whole mass of fluids*, and especially the blood, will ultimately be tainted with crude unassimilated and acrimonious humours."

Dr. Hodgkin* in describing the first part of the process of digestion, insists on the necessity for retaining solid food in the mouth sufficiently long to be broken up, and so mixed with the saliva, as to be converted into a soft pulpy mass by the action of the teeth and jaws. And Dr. Pereira† remarks, "It is obvious that perfect mastication by effecting the minute division of food must be an important aid to digestion, and this fact cannot be too strongly urged on dyspeptics; for, if the food be imperfectly chewed and hastily swallowed, greater difficulty is experienced in the subsequent operation of digestion. To the toothless, therefore, artificial teeth are important adjuvants to the gastric operations."

Dr. Arbuthnot's‡ remarks are nearly synonymous with some of the foregoing.

How large a share of the business of digestion is accomplished by mastication, has been shewn by the conclusive experiments of Spalanzani,

Dr. Hodgkin's precept as to the complete mastication of food.

Dr. Pereira's admonition, as to the importance of artificial Teeth to the toothless and dyspeptic.

Dr. Arbuthnot's coincident remarks

Spalanzani's explanation

* "Means of promoting and preserving health."

† See "Treatise on food and diet," by Jonathan Pereira, page 444.

‡ "Essay on Aliment."

of the reasons
for suffering
from un-
chewed food.

who points out in page 277, vol. i. of his work on Digestion, the cause of suffering from indigestion from *imperfectly chewed food*, which prevents the proper entrance and solvent action of the gastric juice. "This," he says, "is also the reason why in other experiments *masticated bread and dressed flesh were more readily dissolved than unchewed bread and raw flesh*; the boiling had made it tenderer and consequently disposed it to allow ingress to the gastric juice."

A. P. W.
Phillip's op-
nion, as to
the compara-
tive nutriture
of food,
chewed and
unchewed &c.

Dr. Cook's
observations
as to

"Food," says Phillip* ("even bread) when properly masticated is more easy of digestion, *than food previously mashed without mastication*, and the most nutritive fluid alone will neither satisfy the appetite nor afford due nourishment:—even the most concentrated decoction of beef will not afford nourishment for weeks without something solid being added." And Cook in his "Practical enquiry into derangement of the digestive organs," remarks,† "Owing to *defective mastication*

* "Treatise on Indigestion," by A. P. W. Phillip, pages, 133, 4, 6, 142.

† Pages 2, 3.

the food when received in the stomach may not be in a proper condition to undergo within *due time*, the change to be effected by the gastric juice, and by being delayed in this viscus, it becomes itself a source of irritation ;

* * * * and pain is induced.

And again, page 3, “ particles of undigested food escaping from the stomach into the duodenum, often produce a bilious attack,—the mucous coat is irritated, the irritation is propagated along the biliary ducts, redundant secretion is excited and diarrhoea results.

These remarks might be easily sustained and corroborated were it needful, by quotations from the writings of Dr. Struve, Dr. Beaumont (in his experiments with Alexis Martin, &c.) Dr. Black, and John Abernethy (who it is well known attributed many diseases to indigestion) and a great many others.

The great importance of the teeth as auxiliaries in mastication and digestion may be seen also by a reference to the animal kingdom in general, some discernible substitute being almost invariably supplied, congenial with the habits and exigencies of each class when they are not given.

the cause of
bilious at-
tacks, &c.,
from im-
perfectly mas-
ticated food.

Similar sen-
timents of
Drs. Struve,
Beaumont,
and Black,
John Aber-
nethy, &c.

Animals have
a substitute
when Teeth
are not sup-
plied.

18 A SUBSTITUTE WHEN TEETH ARE NOT GIVEN.

The gizzard of birds. In birds that live on grain and vegetable substances, in which strong and heavy grinding teeth would have been extremely inconvenient, the lower portion of the stomach or gizzard is strong, muscular and extremely powerful, being so constructed that the sides are capable of motion upon each other, with a force that has been proved by experiment, to be sufficient to crush and reduce very hard substances.

Wonderful apparatus which serve for Teeth. In some crustaceous animals, as the lobster, teeth are provided in the stomach, and in the Sea Egg or Echinus, "it is impossible," (says J. Howship,")* "to examine without astonishment, the excellent mechanism by which the digestive apparatus, (not forming two portable mill-stones as in the gizzard of birds, nor furnished with teeth as in the stomach of the lobster,) is constituted of five or six delicate and light, yet strong osseous frames, all formed upon one model, loosely set together into a cone, the reciprocal action of each part, with the rest being regulated by a set of minute hinges attached by ligaments

* "Practical Remarks on Indigestion."

round the margin of the base;—the line of trituration and consequent course of the food being that of the axis of the cone through the centre of this most ingenious and curious little machine."

If good teeth then are essential for our *health* they are not less needful for our *comfort* in a great many respects ; and that the turn of expression of

THE COUNTENANCE,

and many of the most useful as well as pleasing and beautiful purposes of life, are robbed of their power and influence by their absence, may be seen by the following considerations.

It is to the muscle situated at the angle of the mouth, called the triangular oris, or depressor anguli oris, which Charles Bell * considers to be peculiar to man, and is an organ of expression,† that in combination with

Muscular peculiarity and intertexture

* "Anatomy of Expression," p. 95.

† The exterior of the face and figure is modified according to constant habit or momentary impulse, and every sentiment, passion, virtue, or vice have

in the human countenance. the converging fibres of almost all the muscles of the sides of the face, with a second, named the levator of the under lip, and a third, the orbicularis, we are indebted for a larger share than any other in performing the motions of the mouth, whether expressive of joy, pleasure, hatred, or any of the other infinite variety of sentiment.* When however the teeth and

Which becomes from loss of Teeth.

their corresponding signs in the face."—*Lectures on Sculpture*, by J. Flaxman, page 140.

Other animals deprived of these advantages.

* The chief expressions of which the faces of animals seem capable, are those of rage and fear; even pain is very obscurely indicated, except in the voice and in the writhing of the body; "dogs," remarks Charles Bell, "in their expression of fondness have a slight eversion of the lips, and grin and snuff amidst their frolic, and fond gambols, in a way nearly resembling laughter; but there is truly nothing in all this which approaches to human expression." But by the combination of a system of elevating and depressing muscles, with those of a few superadded and peculiar ones, man is capable of that various play of the features denied to other animals. He alone, by this concentrated and appropriate apparatus, is capable of displaying in the countenance, the sentiments of a mind imbued with feelings of intelligence and benignity. A strong evidence this, that nature, or rather the God of nature, designed him to be, a social, benevolent and happy being; whilst an

alveoli, or sockets, are partially or wholly lost, Seriously deteriorated. an undue relaxation of these parts inevitably

absence in his whole exterior of all arm of defence, of projecting teeth or strong claws, being neither covered with hard scales, nor with bristles, nor with a thick hide, and far surpassed in speed, proclaim him to be modelled not for war and mutual destruction, but for reciprocal acts of friendship and love, for mutual service and safety. And when to this is added his great prerogatives, speech and reason, gifts which tend more than any other to conciliate and cherish social sympathy and friendship, the courteous and candid reader will acknowledge, that the advocate of universal and permanent peace has a strong phalanx of argument on his side.

And what more reasonable than that nations should settle their differences by measures of adjudication, arbitration, and international law? Time was, when trial by jury in individual cases, was superseded by trial by battle, and each individual took vengeance in his own hands as nations do now. "Before the dawn of christianity had thrown its light on the interesting doctrine of a Providence superintending the affairs of men, and when the belief of an adequate distribution of rewards and punishments in the present life seems to have been generally received, the rich and the prosperous were apt to be considered the peculiar favourites of heaven. Hence, in a superstitious age arose the practice of making a direct appeal to the Deity in the single combat, [which was preceded by *fasting and prayer as the practice of war*

The form of the Teeth, &c. indicate that WAR is NOT "the natural state of man" as once maintained to be by some, but the reverse.

Absurd custom, consistent with the above mistaken sentiment, now happily exploded,

in its power follows ;—and not being properly *sustained*, their force and ability are in part, or in toto is now] under the persuasion that the justice of heaven would infallibly declare for the innocent and visit the guilty with dishonour and death.”—*Encyclopaedia Britanica*.

The trial by arms was the ONLY decision in England in civil cases upon issue joined in a writ of right before the reign of Henry the Second ;—it was also used in the court-martial or court of chivalry, and in an appeal of felony. None were exempt from it but females, the sick and the maimed, and persons under fifteen or above sixty years of age, (Ecclesiastics, Priests and Monks being allowed to produce champions in their stead) and it is *not thirty years* since a trial of this kind was claimed, nor twenty that it was formally expunged from the statute law of England. During the first eighteen years of the reign of Henry the Fourth of France, it is said that no less than four thousand persons perished by duelling.

as national war undoubtedly will be.

If this custom of the duel and judicial combat once sanctioned by Church and State has been denounced by both, after its existence for five centuries, why may not the custom of war in due time share the same fate? There is no excuse for resorting to war any more than there is for individuals to appeal to trial by single combat.* William Ladd in his “Congress of Nations,” and Judge Jay have clearly demonstrated how it can be avoided.

* See Congress of Nations, by William Ladd, price 6d., and Judge Jay on Arbitration, 6d. Ward & Co., and Peace Society Office, 19, New Broad Street.

departed. Hence that elevated dignity which is assigned to the human countenance as superior to the brute creation, and which marks the distinguishing attributes of man, if not entirely lost, measurably only prevails. "To brutify the human countenance," says Charles Bell, "we have only to diminish the forehead, bring the eyes nearer, lengthen the jaws, shorten the nose, and depress the mouth."

To every organ in the animal body, is assigned some peculiar and needful office; those, on which the lesser energies of the body depend, as well as the most vital, are essential to life and its comforts. Not only does perfect harmony subsist between these, but they assist and are mutually dependent on each other; and in animated nature, whenever circumstances intervene to interrupt this mutual relation and dependence, an irregularity is established, which is the immediate source of inconvenience. Hence, we find that THE SIGHT, the senses of HEARING, of SMELL, of TASTE, may all be, and frequently are, prejudicially influenced and sensibly impaired in their strength and power, from the continued existence of any irritating cause about the

Other organs
and faculties
injured by
diseased
Teeth, &c.

mouth and teeth; nay, pains not only in the head, but in the arms and even in the legs, have been known to originate in the mouth.

An easy, efficacious, and agreeable Voice much depends on a perfect conformation of the Palate and Teeth.

Of any which distinguish the vocal animals,

“THE HUMAN VOICE,”

says William Gardiner,* “in its tone and accent, is unquestionably, the most pure and sonorous, and by the peculiar structure of the vocal organs, man is capable of making a greater *variety* of tones than any other animal, and has at his command the power of expressing every emotion.” Whether we consider the voice in its principle, variations, or organs, it is impossible to fathom its admirable mechanism; but this we know, as shown by M. Dodart and others, that the sound proceeding from the lungs, through the larynx, and its aperture called the glottis,† into the cavity of the mouth and nostrils, is reflected and resounds; that on this resonance its agreeableness en-

* “Music of nature,” pages 16 and 31.

† “The air issues with more or less force, producing in its efforts for passage the vibrations which are heard in vocal sounds; but the throat, teeth, nostrils and lips have their several provinces in the articulation of the voice.—Booth’s Analytical Dictionary, p. 5.

tirely depends, and that the different consistencies and forms of the various parts of the mouth, particularly the palate, (which may be regarded as its sound-board) and the teeth, contribute essentially to it, and hence the voice is more or less melodious and clear, according to the most perfect adaptation of these organs. Imagine a sound-board, not formed as it usually is, but modelled into a hollow deep cupola or cavern, and then you will perceive how easily the voice may be choked or obstructed, by a contracted cavernous arch, and obtruding irregular or defective teeth, and why, from this malformation occasioning so great an expenditure of power in the exercise of the voice, not only have some *orators* been limited in their success, but many have been obliged to discontinue their avocations.

One of the most distinguishing comforts in life, consists in

A CORRECT ARTICULATION

which, indeed, is the foundation of a good delivery of our sentiments. But to convey to those around us with precision, force, and cause of imperfect pronunciation from

loss of Teeth. harmony, the full purport and meaning of words and sentences, without the teeth is impossible. The reason is obvious ; words of more syllables than one, have one syllable accented, and peculiarly distinguished from the rest, either by a smart percussion of the voice or by dwelling longer upon it, *and it is in this attempt at percussion and striking of the accent, in which a deficiency in these organs is more particularly distressing.* Even the loss of a single tooth will produce a sort of whistling sound, interfering materially with the pronunciation, the saliva often being ejected with considerable force through undue compression on the sublingual glands. It is true that each vowel needs only a bare opening of the mouth to make it heard and form a distinct voice, because it affords a complete sound of itself and needs no rebuff, but the consonants need the intervention of the teeth and lips to strike against ; when therefore a tooth is lost a hissing sound is produced, because the air escapes involuntarily and with rapidity through the opening occasioned by that loss.

The Source

“ MODULATION,” says Taylor, “ is the key

which opens to the ear all the treasures of harmony." "MELODY," says Gardiner, "is a succession of sounds at harmonick distances; its excellence and beauty will always depend on the correctness of the harmony through which it is generated." "Ритм is to the ear what order and regularity are to the eye." From the peculiar structure of the ear, we learn, that the different degrees of loud and soft, (or as Busby expresses it) "duly regulated cadences, accents and quantities," constitute one of its greatest reliefs, and that it is unfitted to receive two sounds of equal force in succession. Hence, the necessity of regard to proportional time, and a series of vocal accents grounded on harmonical laws, by which language is modelled at the peremptory dictation of the ear forming a particular metre and rhythm. This will explain the reason why, properly adapted sounds are heard at a greater distance than others more discordant, and why, in order to be well heard and clearly understood, distinctness of articulation contributes more than mere loudness of the voice without regard to these principles.

of harmonical
adaptation
and accuracy
considered.

Dr. Johnson's
and others'
precepts on
this point. With this view Dr. Johnson and other authorities have laid it down as a rule, that every sound which is uttered must have its due proportion, and every syllable and even every letter in the word pronounced, must be heard distinctly, without straining, whispering or suppressing any of the proper sounds, so that the ear shall without difficulty, acknowledge their number and perceive at once to which syllable each letter belongs.

The inevitable
conse-
quences
involved from
loss of Teeth,
&c.

Where these points are not observed the articulation is proportionably defective. As for the grosser faults of utterance, such as stammering, fluttering, lisping and inability to pronounce certain letters, they can never be cured by mere precept; nevertheless much very often depends on the deficiencies or imperfect conformation of the organs of speech, especially of the teeth, as it regards interception of the breath by collision or closure. Where one tooth only is deficient, particularly in the front, such deficiency adds much to the *labour* of speaking to say the least, and in most cases a lisping, too hasty or sudden drop, or faint delivery is the result: in greater

deficiencies a mumbling and cluttering is almost sure to follow.

A perfect conformation and condition of the mouth and teeth, are therefore essential sources of human happiness and comfort. That that which contributes to health and comfort must tend to prolong the extension of life, is too obvious to need any argument.

Is it not then most surprising, that whilst every article of habiliment is so nicely attended to, these organic parts of our frame on which our personal stamina so considerably depend, are often almost lost sight of till the eleventh hour, or when the tender membrane of a tooth becomes exposed, and a category of “the evils which flesh is heir to,” and which might have been averted by seasonable care, are experienced, frequently incapacitating for every species of intellectual and physical exertion, and suspending all ordinary pursuits.*

Many annoyances afflictions and deprivations may be superseded by attention to the Teeth.

* “Can there be a stronger inducement to give due attention to the mouth and teeth in a regular and proper manner as a preventive of general disease, that we may enjoy a sound body and perfect senses to the latest period of life!” At least let us have recourse to those means which will prevent the constitution from being worn out by sleepless nights, and

What attention is needful demonstrated by considering the sources and causes of decay.

But what preventive means depend on an individual's own exertions? This interrogation is answered in considering the

ORIGIN OF GANGRENE OR DECAY OF THE TEETH,

but it would be endless work to undertake to enter into a minute disquisition of the merit or demerit of particular theories on this subject. The truth is, that decay of the teeth may originate from several causes both external and internal, and the following may be enumerated as the chief or most prominent, each of which will require a passing remark, just so far and no farther than will be likely to prove useful to the reader and to elucidate the means of prevention or cure.

First, then, from the want of cleanliness and in the accumulation of Sordes of Calculus and decomposed food, see "Means of Preservation," and "Stopping, &c."

Secondly, from the external form and configuration of the different classes of the teeth,

days of irritation and pain which no species of torture can exceed."—L. S. Parmly.

with irregular surfaces and cavities, deep depressions and excavations—See “Means of Preservation,” “Stopping,” &c.

Thirdly, from a want of vigour and energy in the constitution during infancy, and interruption of the course of nature during the periods of their formation and progression in the jaw.—See “Dentition.”

Fourthly, from the too early extraction of the temporary teeth, whereby the *maturity* of the permanent teeth is prevented, the contraction of the jaws promoted, &c.—See “Temporary Teeth.”

Fifthly, from the total neglect of, or *too late* interference with, the temporary teeth, so that the two sets are permitted to cluster together, whereby irregularity and decay is produced by the too close apposition of one to the other. This is spoken of in pages 38 and 42.

To these must undoubtedly be added—in temperance of various kinds,* sudden tran-

* “Can a man take fire in his bosom and not be burnt?”—neither can he introduce alcoholic drink into his system, without forcing the blood to an unnatural circulation, the muscular fibres to a more intense contractibility, and the nerves and

Alcoholic drinks are not healthful to the mouth and Teeth.

sitions from heat to cold, inflammation and other causes, (involved however in the foregoing, or treated of in the articles referred to.)

brain to an excess of susceptibility :—every part of the frame sympathizes, and the teeth and gums of course share in the general mischief. By a preternatural distention and diseased action of the vessels, the gums of dram-drinkers become irritable, turgid, and spongy, bleeding readily on being pressed, painful to the touch, and separating their edges from the necks of the teeth ; the exposure of the periosteum or membrane of the Tooth is the next evil, absorption of the gum and sockets gradually goes on until the Teeth losing their support become loosened and at length fall out.

on account of
which and on
several other
grounds their
use is depre-
cated.

So far as concerns the Teeth and Gums, I would say of Alcoholic drinks in general “ touch not, taste not, handle not :” and a glass of either wine, gin, rum, brandy, or ale, does not contain as much nourishment as is to be found in a single grain of wheat ; † hence, it is clear, that they are not nutritious ;—if not nutritious they must be needless ;—it is universally held by medical philosophers that whatever is needless is detrimental ; and since it is certain that they inflame and injure the tender viscera of the body, that they disarrange the natural action of the heart, too impetuously propel the circulation, prejudicially affecting the brain, the delicate membranes of the blood-vessels and absorbents, and the thousands of

† See “Stimulation not Strength,” by Dr. Edward Johnson, (Simpkin and Marshall) ; and “Exposure of the Great Delusion as to the properties of Malt Liquor,” by J. Livesey, (Pasco, 159, Aldersgate Street.)

The important practical application to which these explanations lead, is the possibility of preventing the commencement of decay, or of arresting its progress before it has effected any serious or irremediable mischief; and although some of the remote or pre-disposing causes specified here, are altogether antecedent to the recollection of the individual, yet the consideration of them will be interesting so far as preventives or remedies

Decay of the
Teeth may be
averted and
stopped from
advancing.

little ducts which convey to and from those channels and to the various parts of the machine their peculiar fluids; since they deprive men of their noblest faculties, interrupting the contemplative devotion of the soul, injuring the feelings of man towards his fellow-man, ruffling the temper, and inducing him to commit acts of which in a state free from their effects he would be ashamed; since they are hurtful to him in a thousand different ways, they must be positively pernicious in the highest degree; and further, as it is quite certain that intoxicating drinks as now prepared are the great moving cause of war, of murders, suicides and all other crimes, of madness, accidents, fires, loss of ships, &c., &c., can it be denied either that the standard of morals of "the source of power"—the public voice, which has given acquiescence, has been at a very low ebb, or is it not altogether unaccountable, that their use has not been restricted long ago, to little more than medicinal purposes?

And the cruel
indifference
as to their
mischievous
effects shewn
to issue from
a debased
state of
morals.

are pointed out, and especially so to *Parents*, whom it especially concerns to know, that during the period of the

DENTITION OF INFANTS

very important changes are taking place, and the basis for perfect or defective permanent teeth is then being laid.

The evils attending Dentition.

From a recent official report it has been ascertained, that the total number of deaths from Teething in one year in England and Wales, was no less than 5219. At another period, the number in the Metropolis alone was 913, whilst from Measles 973, and from Scarletina 663 ; thus showing that the evils attending Dentition, had been fraught with nearly as fatal results as those attending measles, and that they are more than one-fourth greater than from a malady at once epidemical and contagious.

This being the case, it is easy to understand, how the exacerbated condition which frequently attends and disturbs the general health of those infants that survive, not

merely this painful process, but the remedies often considered requisite to resort to, whilst the teeth are forming in the Gum, (of which one of the most injurious is mercury)* may so far interfere with healthful secretions, as to affect the materials composing the teeth ; a fact admitted by Physiologists.

It is by the deposition of ossifick matter, through the determined action of the arteries, that ossification advances ; and when from a want of vigour and energy in the constitution, they fail to perform those functions, the teeth must necessarily be imperfect and incomplete.

The constitutional symptoms frequently Medical

* “ Mercury acts strongly on the absorbent system and more decidedly than either electricity or pressure ; when a man dies in our foul wards for example, in a state of salivation, we find that the sockets of the teeth have been in a great measure absorbed.”—Astley Cooper’s Lectures, p. 39. “ If the use of calomel during the formation of teeth occasions them to be pitted with dark specks and ill-formed, it becomes an additional warning among a thousand others to dispense with the use of those medicines as often as possible, and to parents not to fly to the produce of Quacks, whose worm cakes, nuts, lozenges, &c., are composed of calomel.”—Essay on the Teeth—Fuller.

Cause of deficient enamel and immature conformation of the Teeth.

assistance
sometimes
indispensable

attending infantile dentition, have a strong tendency to give rise to a variety of sympathetic affections, and therefore the aid of an experienced and attentive medical practitioner, may often prevent not only many an anxious hour but a long and dangerous illness.

Advice to
mothers.

The precautions necessary to be observed by mothers are these; to pay proper regard to the digestive organs, to give a little expectorating medicine when accompanied with cough (as is frequently the case) to encourage a gentle friction to the gums by means of india rubber rings or a crust of bread; but to avoid the application of coral and other hard substances; and when the gums are *lanced* by the medical attendant, to have the incisions made on the *outer* and *anterior* parts of the gum.* By these means the remedy is rendered harmless and simple, and should never be omitted when the symptoms which usually attend teething are manifest, for by omitting

* By this caution the cord of connexion will be avoided (and which if divided might seriously injure the rudiments of the permanent teeth) it is situated immediately *behind* the expected tooth.

it such infants are liable to convulsions and other evils. The precise period for the appearance of

THE FIRST, OR TEMPORARY TEETH

is constantly liable to considerable variation. Order and periods of their advancement. As a general rule, one or two of the front teeth of the under jaw may be expected about the fifth or seventh month; in some weeks after, the two front in the upper jaw; again, in some weeks after, a tooth on each side of those which have already appeared in the under, then in the upper jaw.—Thus at about the age of from nine to twelve months, will the four front teeth of both jaws have passed through the gums. At about two months after, the two first double of the lower, then the upper, then the canine or eye-tooth. The number of the first teeth when complete being twenty.

Thus as the child advances, are the provisions of nature so beautifully displayed, in first presenting the front or cutting, then the double and grinding teeth, till the constitution

goes on to greater maturity, deriving proportional strength as more substantial nutriment is required. These rules however are liable to great exceptions, both as to the periods and order of the emergence of the teeth.

Dissuasion
from two most
prevalent and
fatal mis-
takes.

Until nature removes them or evinces the necessity of its being done by art, these first teeth should be permitted to remain;* very much evil is constantly produced by too speedy a removal of them, as well as entire neglect of them *when they should be removed*. From these two errors (the consequence of indifference, prejudice or inexperience) may be considered to arise, full half the cases of irregularity and decay incident to the permanent ones; of contracted jaws and defective and immatured teeth: while the countenance and features become most prejudicially influenced, and an impediment to the speech is

* The jaws with every other part of the body of the child is undergoing a continual course of development and alteration in form and size, these first teeth then being left in the sockets, preserve the form of the arch of the jaw, and being arranged uniformly and in a continuous succession prevent its contraction.

often bequeathed to such sufferers. Hence it is undoubtedly the duty of parents to avail themselves of the practical knowledge of those, who from long experience are able to detect and remedy approaching mischief before it becomes irreparable.

The Author has for many years past frequently stopped the teeth of very young children rather than sacrifice them, and he earnestly recommends the plan to others, for by so doing they are retained sufficiently long to preserve the form of the arch of the jaw and the situations for the advancing permanent ones. Thus a lasting benefit will be conferred on Society, and the squalid, lean, and unhealthy appearance of childhood (so prevalent at the present day from unmasticated and indigestible food) give place to a more healthful and robust frame.

The teeth of children at this period are liable to a deposite of a greenish hue which is of a most virulent nature, eating into the enamel; Parents should have them inspected, as evil of this kind is frequently going on when they are quite ignorant of it; and con-

Author's
plan of pre-
serving Teeth
the proper
period.

firmed habits of attention to them should be acquired by daily brushing.*

Some children at a very early age acquire a habit of sucking the thumb during the hours of sleep, which Parents should strictly interdict as rabbit-mouth (so called, spoken of in p. 43) is often produced by it.

Irregularity
should be ex-
pected and
care and
counsel taken

In order to determine that perfection and healthy moulding of which the mouth is susceptible, it is often essentially necessary that a little direction be given to the

PERMANENT OR SECOND TEETH

which are usually characterized by a tendency to become irregular. In a well-formed mouth, the teeth present the appearance of a graceful arch, and the under are overlapped by the upper.

* This is more particularly needful by or before the age of six, when children have four large grinding permanent teeth, which of all others are the most deeply indented, and consequently the most obnoxious to decay on account of their favouring the detention of decomposed food.

The periods at which they may be expected are—

Progress and
Emergence of
Second Set.

| | |
|--|---|
| Four hinder molares or grinding teeth at about..... | Six to seven years. |
| Two central front under, then upper at from..... | Seven to eight years. |
| One on either side of the two former the under taking the precedence | From eight to nine years. |
| Two of the small double of the under, then of the upper jaw. | From nine to ten years. |
| The two under canine teeth, and two upper second double..... | From nine and half to twelve and half years |
| The four second hinder grinding teeth | From eleven and half to fourteen years. |
| The four third permanent grinders or wise teeth | From seventeen to twenty-one and later. |

The above rules are of course liable to some exceptions.

If the mouths of young persons are frequently inspected by those who have a correct knowledge of the development of the teeth

The discriminating skill of the

professionally experienced, valuable and indispensable in this case. and jaws,* happy results can hardly fail to emanate from such attention, but much depends on the practical skill and judgment of the Dentist, in choosing the most proper period for extracting, or not, the first teeth. *If too early*, the contraction of the jaws will ensue, and other evils, *if too late* (and the two sets be permitted to cluster together indiscriminately), some of the upper will be allowed to shut within the under; shelves and cavernous vaults will be formed favouring the detention of decomposed food and decay; the proper arch of the jaw will not be preserved; the centre and uniformity of the mouth lost; the speech seriously impeded and the visage marred. See page 31.

Serious deformities and impediments to language, and to

Here as in every other part of the fabric are parts so curiously allied one to the other, that the irregularity of a portion may often drag after it other parts which are made to share in the mischief. Hence we find that

* “The foundation of all reasonable practice in the treatment of the teeth, must undoubtedly be in a perfect knowledge of their nature and structure.” —Natural History of the Teeth by Joseph Murphy.

by the direction given to the teeth, will the mouth, chin, and muscles connected with them be altered in their symmetry, shape and size ; corresponding effects be entailed on the features ; and consequent expression given to the countenance. The most remarkable of these, are the projecting chin, and the prominence of the two, four or more front teeth in the upper jaw, the former commonly termed the pig, and the latter rabbit mouth. There are many other cases of irregularity, all of which are productive of unpleasant results, and when suffered to remain become established deformities.

Most cases of irregularity can be obviated, but if neglected up to the age of fifteen or sixteen, it is only effected by dint of great assiduity and care, both on the part of the patient and operator ; such teeth however should not be extracted if any other means will regulate them, (and a properly constructed apparatus frequently will,) and allowing for the gradual expansion of the jaws until the age of twenty-one, sufficient space will generally be found for the whole of the thirty-two teeth.

Irregularity
of the Teeth
irreparable
after certain
ages.

One of the first and most important precautionary measures to be adopted as a

MEANS OF PRESERVATION

Periodical
cleansing
essential

Character of
brush.

Its effective
application.

is undoubtedly that of cleanliness. In order to preserve the teeth from caries, it is absolutely necessary that they should be brushed night and morning, (where it is impracticable after every meal.) The brush should be of moderate hardness, the hairs rather firm and elastick and not too closely set: its operation should reach to the interstices and masticating surfaces where food is detained and decomposed, (the putrid matter arising from which is the active agent of destruction.*

Tobacco.—
Reasons why
its use does
not conduce
to longevity,

* It is frequently asked whether the use of tobacco is injurious or not to the teeth, and the health. In answer to which, the inquirer may be respectfully invited to turn to his Cyclopædia, and when he reads of the powerful principles it contains, namely, empyreumatic oil, and nicotina, the action of both of which is highly poisonous,—(a drop of the former placed on the tongue excites convulsions and coma,—lethargic drowsiness,—and may prove fatal in a few minutes, and a quarter of a drop of the latter will kill a rabbit, and a drop a dog,)—will he not rather inquire, how it can be otherwise than most injurious, not only to

As caries is almost imperceptible in its ^{The insidious} approach, the necessity of frequent inspection ^{nature of decay.}

the teeth and gums, but indirectly if not obviously to every part of the frame?

Beyond an unsightly discolouration of the teeth, and an empyreumatical infection of the breath, of those accustomed to the use of this narcotic acrid poison, its deleterious effects may not for a considerable period be detected; but after long habitual use, the whole system becomes impregnated; and although habit may reconcile its action when used moderately, nothing can secure the body from its irritative property and ultimate absorption, when employed in excess or incautiously.

Its action on the heart, or probably the nerves of the heart manifests itself by slower pulsations, and an indulgence in an intemperate and successive use of tobacco, by smoking a number of pipes or cigars has caused death.

Under the action of the nervous system, the motions of the heart, and consequently the general quickness of the course of the blood are quickened or retarded. All irritants and stimulants, urge and force to a more vehement, and consequently, a more *rapid outlay of the strength or capacity for exertion*; and it is an invariable law of all organization, that *outlay is succeeded by depression*, and whatever unduly depresses, whether *resulting originally from a stimulant, a narcotic, a sedative, or any other powerful principle*, has the effect of ultimately lessening improperly, the action of the heart and arteries; and it is on this

evinces the propriety of inspection and a preliminary measure.

and a little vigilant attention will be evident, and it has been suggested that as a means of preservation, the first preventive measure consists in cleanliness, but in general before cleanliness can be acquired or a regular inspection rendered practicable or available, the calculous deposite commonly termed tartar (which collects about the indentations and necks of the teeth, and like a sponge absorbs and retains acids and decomposed food) must first be removed. This is termed SCALING THE TEETH, and if properly performed will prove most beneficial in its results. This calcareous

Composition and

account that neither the use of intoxicating drinks, nor tobacco, nor any thing else producing an effect which issues in depression, can be recommended for the promotion of health and longevity.

I would therefore strongly recommend abstinence from the use of tobacco in all or any of its forms ; not only on the ground of its rendering the teeth unsightly, and the breath disagreeable, but because it is clear to a demonstration, *that it finally depresses the natural powers.* Its use even in the forms of snuffs and errhines, is very objectionable, the membrane of the nose becomes thickened, its sensibility impaired, and the power of discriminating odours greatly lessened.

crust is held in solution by the saliva, and is putrid nature of Tartar. principally composed of the phosphate of lime, but not entirely so, as it combines with a considerable portion of the mucus of the mouth during its deposition; as well as particles of putruscent food. It is from this cause and from decayed teeth, that the *breath* becomes tainted, and not from the stomach, as often supposed: * hence decayed teeth should be stopped, see "stopping," and the early removal of this accumulation encouraged—an operation which is productive of much benefit. To make this attempt, it can hardly ever be too late, for even when the teeth are undermined by it, they generally become firm after the operation, and when this source of irritation is removed, the gums assume a healthy appearance.

Hollow Teeth should be stopped to prevent fetid lodgments and impurity of Breath.

This incrustation is formed almost universally on the teeth of every individual, some being more particularly liable to it than others: in all cases it is injurious to the teeth and

Injurious effects of

* In proof of this, it will be found that the breath of infants and those with clean teeth is inoffensive.

putredinous accumulation gums when allowed to accumulate, but sometimes most acrimonious and virulently destructive, serving as a nucleus or basis for future deposite; detaching the gums from their connexion with the teeth, making them irritable, spongy and liable to bleed. They cannot be brought back to their original situation, the teeth become raised above the level of the others, occasioning great pain through the consequent pressure against the opposing ones in closing the mouth; rendering their extraction necessary, or losing their support by tartar surrounding the fangs; occasioning also the absorption of the socket, they often drop out of themselves.

devastating the Teeth, infecting the lungs, and

But there is a still more serious consideration connected with this subject. Not only do the teeth when neglected thus become depositaries of viscid matter, which acts so powerfully on the solid structure of a tooth as to produce decay, but by becoming increasingly virulent in its nature through putrid decomposition, every inspiration bids fair to endanger the health of the *lungs themselves*, and thus by absorption into the system, it is

liable to imbue in no very prolonged period ^{insidiously} _{undermining} the frame. and finally to become the means (though probably imperceptibly) of breaking up the constitution. A case or two of this kind has recently come under the author's notice which, he felt persuaded, if not attended to, could hardly fail to abridge life.*

When the incrustation is formed on the teeth, the Dentist's instruments alone can bring them back to a proper state: all cleaning, however assiduously attempted, till this is effected, will be vain, after which, by having them occasionally freed, and by acquiring a habit of daily cleaning them, as recommended in page 44, and with a harmless powder, (not ^{Tooth Pow-}ders. possessing an acid or any other ingredient which can act *chymically*, or too mechanically on the enamel) all will have been done that need, or even can be done to promote their preservation beyond *a careful inspection*, which

* "The lungs, or to speak more exactly, the surface of the pulmonary cells, offer a medium through which substances may be *imbibed and introduced into the economy to a great extent and with astonishing rapidity.*"—F. Majendie's Lectures, Professor of Physiology and Medicine. Paris.

must be submitted to (as before remarked,) without delay, and then the

REMOVAL OF INCIPIENT DECAY,

(when it evidently does not penetrate sufficiently deep, into the bony structure of the tooth, as to expose the internal membrane or nerve,) is sometimes both practicable and safe, but requires much nice care in its performance and judgment, (to be derived only from experience) in undertaking it.

Practice of
filing the
Teeth dis-
couraged.

The practice of filing and cutting away parts of the teeth with impunity, under the idea of preventing lateral pressure is a very doubtful and often a mischievous one. Almost the only case that justifies the employment of the file is where caries has commenced on the side of a tooth.

When the proper period for this operation has been passed over, as is often the case, and the part becomes not merely discoloured but black and corroded ; entering its *second stage* ; commencing its ravages on the softer osseous

structure within, no time should be lost in having the operation

OF FILLING OR STOPPING

performed; for this is the most favorable period for performing it. The internal cavity of the tooth is still protected by a partition of healthy bone, so that not the slightest tenderness has been produced, an easy passage is formed for the point of an instrument through the enamel, and after every particle of carious substance is removed, the part is securely and firmly filled with a substance at once indestructible and not liable to undergo a chymical change.

Important
and satisfa-
tory nature of
the Operation
of Stopping.

This remedy is one of the most satisfactory if performed well, and under favorable circumstances, as the disease may be considered arrested in its progress by it, and the preservation of the tooth permanently secured or prolonged for a considerable time: but it must be looked upon rather as a preventive than a cure.

A greater mistake can hardly be com-

mitted than a postponement of the operation of Stopping at this period; and since it can be performed without pain, and so efficient and certain a result be secured, one would suppose a greater inducement to its timely application could not be necessary. Unhappily, however, from the imperceptible manner in which caries proceeds, it is seldom thought of or suspected, so that even then when reminded of its presence, the answer most commonly is, "I have felt no pain." This eligible period is, therefore, more generally passed over, until a spasmodic paroxysm darting through the medium of the nervous system with the vigour of an electrical shock proclaims the nature of the evil.* The next stage of the disease is when

TOOTH ACHE

has been experienced, and when application is more generally made for relief. It usually

* No tooth however should be despaired of, even when much decayed, the pain can be more generally subdued with proper management, and the Tooth rendered useful.

assumes the form of inflammation of the nerve or membrane in the internal cavity of the decayed tooth, by exposure to cold or irritating food, and notwithstanding its highly excited state, narcotics and stimulants frequently produce relief.*

When the tooth-ache arises from inflammation of the gum and parts surrounding the tooth, the application of the lancet or leeches to the gum will be proper.

This malady may also be brought on and perpetuated by indigestion when an aperient medicine will tend to accelerate the cure. †

* As, oil cloves five drops, opium half a grain, mixed, and put into the cavity of the tooth. Alum half a dram, sweet spirit of nitre, two drams, mixed. Oil origanum or thyme, a small portion of gall nut or of the root of pellitory of Spain, of ginger, and many other articles of the same nature. Even cold applications by abstracting a portion of caloric have sometimes proved of use.

† As, compound extract colocynth thirty grains, make into twelve pills, take two or three every night. Or, rhubarb twenty grains, scammony and aloes, each six grains, ginger four grains make into twelve pills with syrup, take three or four every night. Or, heavy magnesia half a dram, rhubarb powder five grains, mint water one ounce and a-half mixed, to be taken at night or in the morning. Or the following

If warm fomentations are applied to the cheek, which sometimes avail by soothing the surrounding parts, great care must be exercised not to expose the face to cold soon afterwards. Chamomile and poppy-head decoction is very suitable.* Great care must also be taken to keep the feet from exposure to damp and cold by those predisposed to Tooth-ache.

When from negligence, inadvertence, or other causes, the preservation of the teeth has not been secured, the sufferer will rejoice to know that the test of many years' experience has now thoroughly established the great utility of

ARTIFICIAL TEETH.

Restorative which are brought to great perfection ; and

at bed-time, and the above draught the succeeding morning. Mindererus spirit three drams, dovers powder six grains, spirit of nutmeg and syrup, each a dram, water six drams, mixed, for one draught.

* If an embrocation is used it should be rubbed gently on the cheek near the seat of pain ; the following is proper, laudanum and compound camphor liniment, one dram each. Opodeldoc four drams, mixed, label " for outward application only."

persons undergoing any of the evils from the loss of teeth, expressed in pages, from 9 to 12, and articles "Articulation," "Voice," &c., (to which the reader is referred,) can have little idea of the comparative comfort to which they may be restored by a recourse to them.

It is by the aid of the teeth that the food is prepared for digestion, and if, when deprived of them, their loss can be in a considerable degree supplied by the skilful application of a well-contrived mechanical substitute so as to prevent the serious consequences which result from permitting food to enter the stomach in an imperfectly masticated state,* it must at once become obvious, that in all such cases they are highly desirable, since they so materially administer to the health and comfort of those who require them.

They are effective pre-paratives of healthful digestion.

* That this is the happy result, the writer has repeatedly received unequivocal testimonies, since many whom he had supplied with whole and partial sets, have kindly and ingenuously made the acknowledgment, (or words to the effect) "I can chew anything with them, crust or anything no matter what."

and conduce
materially to
aid enunci-
ation.

It has also been shown in the pages referred to, that teeth are essential for the formation of correct articulate sounds, and that those who have lost their *front teeth* especially, speak with hesitation or lisping; and hence to all in active pursuits, as well as to public speakers, it is a deprivation of great consequence.* If artificial teeth remedy this inconvenience as well as that of the involuntary ejection of saliva, equally distressing to those who happen to speak with a little volubility, as annoying to others who approach them, it is not surprising that they are becoming so duly appreciated.

The best
modes of re-
placing Teeth

The best modes of fixing teeth consist in varying and adapting the treatment as well as the choice of the material, according to each peculiar case.† The application of which

* A. B. (a clergyman) whom the writer had supplied with only two upper side teeth, assured him recently, that his articulation had become so indistinct from their loss, as to elicit the notice of his congregation, who, however, acknowledged it was restored after he had filled up the vacuum. See articles "Voice" and "Articulation."

† As a base or frame on which to secure the teeth, ivory has a vast superiority over gold in many cases,

remedies need involve no pain, for where persons possess healthy stumps, or one or more teeth in either jaw, they should never be extracted, because they are of great use in steadyng the frames, which in their turn become a means of supporting and preserving the remaining natural ones.

When the teeth are wholly lost, the alveolar process or sockets of the teeth are also absorbed or wasted away, and thus a depth of substance of from half an inch to two inches is removed, the approximation of the nose and chin—the falling of the features,—a wrinkling and relaxation of the face of course follow. A hollow stentorian echo resumes the place of

but there are some mouths in which from the proximity of the antagonist teeth, the peculiar form of the gum, and other causes, this plan becomes wholly inapplicable ; and hence the superiority of a system of not invariably adhering to the same mode irrespective of never-ending peculiarities which instances may present. Sometimes, therefore, gold is most eligible, at other times Hippotamus—in some cases, porcelain teeth, in others terro-metallic, mineral, or natural, or a combination of two or more, or partially of all, the choice and adoption of which the experienced Dentist can decide.

Their painless application. Retention of stumps and old Teeth.

Cause of premature old age from loss of Teeth, dysphony and

a noble voice; an incoherent clamour that of correct enunciation, and, as the proper comminution of food is now rendered impossible, being introduced into the stomach in a crude undivided state, the digestive fluids and chymical influences become deficient, or are rendered nugatory, and thus the end and object of digestion, become partially and sometimes altogether frustrated.

inarticulate speech,
the muscular action of the stomach debilitated &c.

“The teeth likewise serve a secondary or subordinate purpose; giving strength and clearness to the sound of the voice as is evident from the alteration produced in speaking, when the teeth are lost.”

“This alteration, however, may not depend entirely upon the teeth, but in some measure *on the other organs of the voice having been accustomed to them; and therefore when they are gone, those other organs may be put out of their common play*, and may not be able to adapt themselves so well to this new instrument. Yet I believe that habit in this case has no great effect; for those people seldom or never get the better of the defect; and young children who are shedding their teeth,

and are perhaps without any fore teeth for half a year or more, always have that defect in their voice, till the new teeth come; and as these grow the voice becomes clear again."

"The loss of one of the fore teeth makes a great alteration. As an argument for the use of the teeth in modifying the sound of the voice, we may observe that the fore teeth come at a time when the child begins to articulate sounds."

"Every defect in speech arising from this defect in the organ, is generally attended with what we call a lisp. This arises partly from the loss of the fore teeth, but principally from the loss of all the teeth and of the alveolar processes [the sockets] by which means the mouth becomes too small for the tongue, and the lips and cheeks become flaccid; *insomuch that the nicer movements of these parts, in the articulation of sounds are obstructed* and thence the words and syllables are indistinctly pronounced, and slurred or run into one another." Practical Treatise on the Diseases of the Teeth. John Hunter, page 117.

When a set of the Author's teeth is first Reasons why

happy results worn, habit soon familiarizes their use, the
follow the
renewal of
properly con-
structed
Teeth.

gums soon harden, especially with the occa-
sional use of an astringent lotion, and incon-
veniences gradually vanish; the depth and fulness
of the countenance are preserved, the speech
is rendered distinct, and untimely declension
prevented; the wearer becomes almost uncon-
scious that he uses them, and it is not too
much to believe, that as comfort and health
return, the period of life is prolonged many
years.

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FINIS.

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